

Chronological List of BUI RAP Milestones in the Deer Lake Area of Concern

Year	Fish Consumption BUI milestones	Eagle reproduction BUI milestones	Eutrophication BUI milestones
2006	Michigan published Delisting Guidelines		
2006	Fish Consumption BUI identified in the State Delisting Guidance as a BUI for the AOC based on the 1987 RAP	Eagle Reproduction BUI identified in the State Delisting Guidance as a BUI for the AOC based on the 1987 RAP	Eutrophication BUI identified in the State Delisting Guidance as a BUI for the AOC based on the 1987 RAP
2005	Deer Lake PAC requested that the DEQ and EPA begin investigating the delisting process for the AOC		
2005	PAC monitored Deer Lake water quality; PAC completed a wildlife study; PAC water quality data report concluded that valve operation has reduced in-lake methylation by 65%	Eagle nest occupied; two eaglets fledged	MDEQ observed additional improvements in winter DO compared with 1999
2004	PAC monitored Deer Lake water quality and began a wildlife study	Eagle nest occupied; two eaglets fledged	
2003	Fish study completed at Deer Lake AOC; valve opened to minimize mercury methylation during summer stratification; MDEQ identified that Partridge Creek is a conduit that transports mercury from an unknown source to the AOC	Eagle nest occupied; two eaglets fledged	
2002	MDEQ drafted a Focused Feasibility Study for AOC; PAC set a goal for Fish Consumption BUI based on large fish; PAC drafted RAP update; PAC monitored Deer Lake water quality; PAC recommended remedies for AOC	Eagle nest occupied; two eaglets fledged	
2001		Eagle nest occupied; two eaglets fledged	
2000	MDEQ concluded that small fish in Deer Lake were similar in mercury content as comparable fish from nearby lakes (Day 2000)	Eagle nest occupied; two eaglets fledged	
1999	CCIC and MDEQ studies confirm that large Deer	Eagle nest occupied; two eaglets fledged	CCIC study observed additional improvements

	Lake fish contain more mercury than comparable fish from nearby lakes; (Day 2000)		in winter DO compared with 1989
1998		Eagle nest occupied; two eaglets fledged	
1995			The Kerfoot 1995 Study indicated that Deer Lake had become mesotrophic-27 ug/l Total Phosphorus in the south basin.
1994	Brook trout consumption advisory lifted from Carp Creek and Carp River		
1991	Fish consumption advisory changed to catch-and-release only.		
1990	Slot cut in the spillway to assist in maintaining a stable water level.		
1989			MDEQ monitoring observed improvements in Winter DO compared with 1974 DEQ data
1987	The Deer Lake reservoir refilled; and a stable water level is maintained; yellow perch and walleye were stocked; MDEQ published the RAP that identified fish consumption as the sole BUI; RAP remedy is natural attenuation of sediments and maintenance of a stable water level to minimize mercury methylation		
1986	Carp Creek diverted around vestige of Deer Lake; remaining fish eradicated with rotenone, eradicated fish returned to Deer Lake under the ice		New Enhanced Secondary Wastewater Treatment Plant (with nitrogen and phosphorus removal) replaced 3 old primary plants
1985	Deer Lake remained drawn down to facilitate mercury de-gassing from sediments		Separation of septic and storm sewers in Ishpeming completed
1984	Deer Lake drawn down and fish eradicated by MDNR; eradicated fish returned to Deer Lake under the ice.		
1982	Fish consumption advisory extended to Carp Creek and Carp River	Laboratory analysis of Deer Lake fish determined that only trace amounts of DDT	

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		and PCBs were present in eagle food	
1981	CCIC laboratory ceased discharge of mercury-containing reagents to City of Ishpeming wastewater treatment system; Fish consumption advisory implemented for Deer Lake; standard pike ¹ contained 2.13 mg/kg mercury (DEQ data)	One adult eagle occupied territory; standard white sucker ² contained 0.96 mg/kg mercury	Ludwig 1981 Study concluded Deer Lake was eutrophic- 86 ug/l Total Phosphorus in south basin.
1976-1980		New eagle nest location occupied but failed	
1977			Bills, Northern Michigan University pub. 1977 Study from 1974 -1975 concluded Deer Lake was hypereutrophic- 278 ug/l Total Phosphorus in south basin
1973-1975		Eagle nest occupied, but failed	Study by Northern Michigan University observed severe winter oxygen depletion in Deer Lake
1972		Eagle nest unoccupied	
1971		Eagle nest occupied, outcome uncertain	
1970		Eagle nest occupation uncertain	Michigan Water Resources Commission ordered the City and Township to remove phosphorus from wastewater
1965-1969		Eagle nest occupied, but failed	
1964		Eagle nest occupied, but failed	Three (one City and two Township) Primary Wastewater Treatment Plants began operation in Ishpeming area

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